

RECEIVED
CENTRAL FAX CENTER

10/575,447

MAY 08 2009

REMARKS

The Applicant thanks the Examiner for indicating that claim 48 is allowed while claims 41 and 42 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 26-47 and 49 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for the reasons noted in the official action. The rejected claims are accordingly amended, by the above claim amendments, and the presently pending claims are now believed to particularly point out and distinctly claim the subject matter regarded as the invention, thereby overcoming all of the raised § 112, second paragraph, rejections. The entered claim amendments are directed solely at overcoming the raised indefiniteness rejection(s) and are not directed at distinguishing the present invention from the art of record in this case.

Claims 26-34 and 49 are rejected, under 35 U.S.C. § 103, as being unpatentable over DeGregoria et al. '424 (U.S. 5,249,424) in view of Chilowsky '800 (U.S. 2,510,800). The Applicant acknowledges and respectfully traverses the raised obviousness rejection in view of the above amendments and the following remarks.

DeGregoria et al. '424 teaches an active magnetic regenerator (AMR) method and apparatus, which includes a single system of conduits that connect each of the AMR beds in series such that the heat transfer fluid flows through each of the AMR beds. Depending on the direction of flow of the heat transfer fluid through the single system of conduits, the heat exchangers can either draw heat away from or draw heat into the fluid. Fig. 3 of DeGregoria et al. '424 shows the heat transfer fluid flowing in a first direction through the system of conduits while Fig. 4 shows the heat transfer fluid flowing in the opposite direction.

As noted by the examiner, DeGregoria et al. '424 does not teach the claimed limitations of hot and cold circuits with a commutation means to connect each circuit in alternation with the magneto-caloric material depending on the hot and the cold cycles. Further DeGregoria et al.

10/575,447

'424 does not teach a synchronization means to synchronize the commutation means with the reciprocating displacement of the magnetic field.

The Examiner cites Chilowsky '800 and contends that this reference relates to separate heating and cooling circuits for a magnetic refrigerator and specifically that col. 4, ln. 64 - col. 5, ln. 20 teaches that flow through the separate heating and cooling circuits is alternated by a synchronizing means.

The Applicant respectfully advances that Chilowsky '800 relates to an apparatus of a technical field that is distinct from that of the claims of the application. The apparatus of Chilowsky '800 generally produces electrical energy from thermal energy without requiring a mechanical movement (column 1, lines 21-24). In the apparatus of this reference thermal fluids is either heated by burners 10 which consume gas or the like fuel (col 4. Ins. 55-63) or cooled by a cooler 21. In relation to the specific citation above. These thermal fluids are either heated or cooled and circulated through ferromagnetic bodies which have magnetic properties that alternate at a certain temperature, the Curie point. Below the Curie point/temperature the ferromagnetic bodies retain their magnetic properties whereas above the Curie point/temperature the ferromagnetic bodies become non-magnetic (col. 1 Ins. 1-14).

As briefly stated above, the thermal energy is transformed into electrical current in a static transformer (col. 1, Ins. 35-37). This electrical energy becomes an alternating electrical energy in the manner taught by the Examiners specific citation in columns 4 and 5. That is, by alternately heating and cooling the ferromagnetic bodies with the thermal fluids and by means of distributors 13, 16, 27, 30 an alternating current is produced in the windings 34 of the armatures 1, 2, 3, 4 which are associated with the permanent magnet 33 (col. 5, Ins. 3-41).

In short Chilowsky '800 is vastly different from the claims of the application as Chilowsky '800 does not disclose a displacement means coupled to the magnetic means as claimed, because the magnetic means Chilowsky '800 do not move, and thus Chilowsky '800 does

RECEIVED
CENTRAL FAX CENTER

10/575,447

MAY 08 2009

not disclose the claimed synchronization means which controls the commutation means with the displacement of the magnetic means.

Furthermore at the time of the Chilowsky '800 invention (1945) the magneto-caloric effects of metallic material had not been discovered. The first patents relating to magnetic refrigerators were filed in the early 1970s.

In view of the above, the Applicant contends that the teachings of Chilowsky '800 would not be of use by one of ordinary skill in the art for modify teachings of DeGregoria et al. '424 to the subject matter of the claims of the application. Even if one of ordinary skill in the art were to combine DeGregoria et al. '424 and Chilowsky '800 they would still fail to teach synchronizing commutation means by displacing magnetic means as currently claimed.

Claims 35-40 and 43 are rejected, under 35 U.S.C. § 103, as being unpatentable over DeGregoria et al. '424 in view of Chilowsky '800 and further in view of Zimm et al. '560 (U.S. 6,685,560). The Applicant acknowledges and respectfully traverses the raised obviousness rejection in view of the above amendments and the following remarks.

The Applicant acknowledges that the additional reference of Zimm et al. '560 may arguably relate to the features indicated by the Examiner in the official action. Nevertheless, the Applicant respectfully submits that the combination of the base references with this additional art still fails to in any way teach, suggest or disclose the above distinguishing features of the presently claimed Invention. As such, all of the raised rejections should be withdrawn at this time in view of the above amendments and remarks.

If any further amendment to this application is believed necessary to advance prosecution and place this case in allowable form, the Examiner is courteously solicited to contact the undersigned representative of the Applicant to discuss the same.

In view of the above amendments and remarks, it is respectfully submitted that all of the raised rejections should be withdrawn at this time. If the Examiner disagrees with the

RECEIVED
CENTRAL FAX CENTER

MAY 08 2009

10/575,447

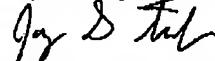
Applicant's view concerning the withdrawal of the outstanding rejection(s) or applicability of the DeGregoria et al. '424, Chilowsky '800 and Zimm et al. '560 references, the Applicant respectfully requests the Examiner to indicate the specific passage or passages, or the drawing or drawings, which contain the necessary teaching, suggestion and/or disclosure required by case law. As such teaching, suggestion and/or disclosure is not present in the applied references, the raised rejection should be withdrawn at this time. Alternatively, if the Examiner is relying on his/her expertise in this field, the Applicant respectfully requests the Examiner to enter an affidavit substantiating the Examiner's position so that suitable contradictory evidence can be entered in this case by the Applicant.

In view of the foregoing, it is respectfully submitted that the raised rejection(s) should be withdrawn and this application is now placed in a condition for allowance. Action to that end, in the form of an early Notice of Allowance, is courteously solicited by the Applicant at this time.

The Applicant respectfully requests that any outstanding objection(s) or requirement(s), as to the form of this application, be held in abeyance until allowable subject matter is indicated for this case.

In the event that there are any fee deficiencies or additional fees are payable, please charge the same or credit any overpayment to our Deposit Account (Account No. 04-0213).

Respectfully submitted,



Jay S. Franklin, Reg. No. 54,105
Customer No. 020210
Davis & Bujold, P.L.L.C.
112 Pleasant Street
Concord, NH 03301-2931
Telephone 603-226-7490
Facsimile 603-226-7499
E-mail: patent@davisandbujold.com